ABSTRACT OF THE DISCLOSURE

[0094] Braze and electrode wire assemblies, e.g., used with an implantable microstimulator, include a wire welded in the through-hole of an electrode, which electrode is brazed to a ceramic case that is brazed to a metal ring that is welded to a metal can. The braze joints are step or similar joints that self-center the case, provide lateral support during braze assembly, and provide increased surface area that prevents braze material from exuding from the joints. The end of the ceramic case that is brazed to the metal ring need not be specially machined. The shell has a reference electrode on one end and an active electrode on the other, and is externally coated on selected areas with conductive and non-conductive materials.